

1. A system for converting a file from one data state to another, comprising:
 - a plurality of conversion nodes, each node having at least one conversion engine executing thereon for converting a file having a one data type to a file having another data state;

means for transmitting the file to one of the plurality of conversion computing platforms in accordance with the least cost.

2. The system recited in claim 1, wherein said plurality of conversion options includes at least one option having at least one intermediate conversion.

3. The system recited in claim 1, wherein said least cost conversion processor calculates a cost associated with transmitting the file for each of said plurality of conversion options, and uses the calculated cost associated with transmitting the file.

4. The system recited in claim 1, further comprising a cost table having stored therein an estimate of static costs and dynamic costs associated with a particular conversion.

5. The system recited in claim 4, wherein the static costs include at least one of cycles required by a CPU to perform a execute a particular conversion

engine against a file of a particular size, and the bandwidth required to transmit a particular file.

6. The system recited in claim 4, wherein the dynamic costs include at least one of current CPU load, memory usage and file I/O.

7. A method for converting a file from one data state to another, comprising the steps of:

executing at least one conversion engine for converting a file having a one data state to a file having another data state;

determining a cost associated with each of a plurality of conversion options, determining a conversion path according to the least cost from the determined costs;

transmitting the file to one of the plurality of conversion nodes in accordance with the least cost.

8. The method recited in claim 7, further comprising the step of determining at least one conversion option having an intermediate conversion.

9. The method recited in claim 7, further comprising the step of calculating a cost associated with transmitting the file for each of said plurality of conversion options, and uses the calculated cost associated with transmitting the file.

10. The method recited in claim 7, further comprising the step of creating a cost table having stored therein an estimate of static costs and dynamic costs associated with a particular conversion.

11. The method recited in claim 10, further comprising the step of determining at least one or of cycles required by a CPU to perform a execute a particular conversion engine against a file of a particular size, and the bandwidth required to transmit a particular file.

12. The method recited in claim 10, further comprising the step of determining at least one of number of CPU cycles used, memory usage and file I/O.

13. A system for sending a file in a first data state from a sending message communicating device to a receiving message communicating device that receives the file in a second data state, comprising:

a first process to determine the first and second data states;

a least cost conversion processor to determine one or more conversion options for converting the file from the first data state to the second data state using the determined first and second data states, said least cost conversion processor, comprising:

a second process to assign costs to the one or more conversion options, said second process selecting the conversion option having the least cost;

a third process to convert the file in accordance with the conversion option having the least cost; and
a message distribution interface, for transmitting the message to the receiving message communicating device.

14. The system recited in claim 13, further comprising a cost table having a plurality of entries corresponding to a conversion engines that are available to perform conversions, the entries having dynamic and static cost information for performing a particular conversion.

15. The system recited in claim 13, wherein the least cost conversion processor includes the cost of delivering the file to the second message communicating device.

16. The system recited in claim 14, wherein an additional conversion engine is added to the system by creating a new entry in said cost table.

17. The system recited in claim 13, wherein said second process normalizes the costs that are assigned to the one or more conversion engines.

18. A method for sending a file in a first data state from a sending message communicating device to a receiving message communicating device that receives the file in a second data state, comprising the steps of:

determining the first and second data states;

determining one or more conversion options for converting the file from the first data state to the second data state using the determined first and second data states, said least cost conversion processor, comprising:

assigning costs to the one or more conversion options, said second process selecting the conversion option having the least cost;

converting the file in accordance with the conversion option having the least cost; and

transmitting the message to the receiving message communicating device.

19. The method recited in claim 18, further comprising the step of creating a cost table having a plurality of entries corresponding to a conversion engines that are available to perform conversions, the entries having dynamic and static cost information for performing a particular conversion.

20. The method recited in claim 18, further comprising the step of calculating the cost of delivering the file to the second message communicating device.

21. The system recited in claim 19, further comprising the step of adding an additional conversion engine by creating a new entry in said cost table.

22. The system recited in claim 13, further comprising the step of normalizing the costs that are assigned to the one or more conversion engines.

23. A least cost conversion processor for converting a file from a first data state to a converted file having a second data state in a least cost, comprising:

- means for obtaining static and dynamic cost data regarding a plurality of conversion engines that can be used to convert the file from one data state to another data state;
- a cost table containing entries corresponding to the plurality of conversion engines;
- means for determining at least one conversion engine to convert the file from the first data state to the second data state;
- a process to select the least cost conversion engine from the determined conversion engines as a selected conversion engine; and
- means for sending the file in the first data state to the selected conversion engine.

24. The least cost conversion processor recited in claim 23, wherein the cost table further comprises entries relating to static and dynamic costs associated with using a particular conversion engine.

25. The least cost conversion processor recited in claim 23, further comprising means for assigning a cost to each conversion engine determined.

26. The least cost processor recited in claim 25, wherein each assigned cost is normalized.

27. The least cost processor recited in claim 23, further comprising an additional entry in said cost table corresponding to an additional conversion engine.

28. The least cost processor recited in claim 23, wherein the cost assigned includes a cost for delivering the converted file to a recipient.

29. The least cost processor recited in claim 23, further comprising means for receiving the converted file from the selected conversion engine.

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